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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,085	09/12/2003	Clinton L. Jones	58911US002	8858
32692	7590	06/16/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			SADULA, JENNIFER R	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,085

Applicant(s)

JONES ET AL.

Examiner

Jennifer R. Sadula

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/12/03, 4/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS 12/13/04, 1/14/05, 2/4/05.

Art Unit: 1756

DETAILED ACTION

Information Disclosure Statement

The IDS's submitted 9/12/03, 4/12/04, 12/13/04, 1/14/05 and 2/4/05 have all been considered. Please note that none of the foreign references were properly cited however Examiner has amended these on the attached signed forms.

Specification

Examiner notes that although the term "durable" is never defined, the durability has been interpreted as meaning resistant to light scraping with a fingernail or hard sharp edge in accordance with paragraph 3 of the Applicants specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 7-10, 13-20, 22-23, 27-34, 37-39 and 41-48 are rejected under 35

U.S.C. 102(e) as being fully anticipated by Ja Chisholm et al., U.S. Patent No 6,844,950 ("Ja Chisholm").

Ja Chisholm teaches microstructure-bearing articles of high refractive index for assorted purposes including light-management films (LMF for use in liquid crystal displays wherein the

Art Unit: 1756

blends of oligomeric urethane methacrylates further include nanoparticles of a zirconium compound which can be cured by UV light to produce films or the like (abstract, figure 1, and 1:8-27). These materials are taught to be of high thermal dimensional stability with resistance to abrasion and impact integrity even when the articles are bent (2:38-50), thereby being "durable" as defined by the Applicants. Ja Chisholm further teaches in accordance with Applicants claim 4 that the material be titanium and zirconium nanoparticles (5:17-27) where, in accordance with Applicants claims 3 and 7-10 the nanoparticles are defined as being preferably less than 100nm but most preferably within the range of 5-50nm (4:55-59). With regard to claims 13-16 the zirconia or titania are in the compound in a range of 5-10:1 (5:19). With regard to the surface modification and specifically Applicants' claim 17, Ja Chisholm teaches that MPTMS functionalization be conducted in the presence of a scavenger such as a stable free radical as exemplified by 4-hydroxy-2,2,6,6-tetramethylpiperidinyloxy and that such functionalization affected primarily the surfaces of the nanoparticles (5:1-16). With regards to claims 18 and those dependent therefrom, Ja Chisholm teaches that the materials do indeed increase the "brightness" which examiner notes is subjective to the interpretation of the user however such is indeed intended by Ja Chisholm (1:14). With regard to claim 27, the structure is defined as utilizing a base layer (figure 1). With regard once again to claims 30-31 the device is taught to be back-lit (figure 1) wherein, with regard to claims 32-34 the use of such an LCD is for computers, TV's and mobile devices (3:42-46).

Art Unit: 1756

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ja Chisholm, as applied above, further in view of Cramer et al, U.S. Patent No. 6,645,569 ("Cramer").

Ja Chisholm teaches the device substantially as claimed however fails to exemplify the use of silica.

Cramer teaches photo-bimolecular metallic particle deposition for use in films wherein the nanoparticles are the same range as those of Ja Chisholm and Applicants (9:60-65) and further where Silica and titanium oxides are interchangeable non-photoactive metal oxides depending on the desired effects (13:20-57).

It therefore would have been obvious to one of ordinary skill in the art to interchange the titania oxides of Ja Chisholm with the silica oxides of Cramer as Cramer teaches the two nanoparticles to be equivalents for the same intended use and size.

Art Unit: 1756

Claims 5-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ja Chisholm, as applied above, further in view of Shustack et al, U.S. Patent Publication No. 2003/0021566 ("Shustack").

Ja Chisholm teaches the device substantially as claimed however fails to exemplify the use of silica.

Shustack teaches curable high refractive index compositions comprising metallic particle deposition for use in films wherein the nanoparticles are the same range as those of Ja Chisholm and Applicants (0024) and further where Silica and titanium oxides are interchangeable non-photoactive metal oxides (0023). Modification is further taught by Shustack similar to that of Ja Chisholm (0025).

It therefore would have been obvious to one of ordinary skill in the art to interchange the titania oxides of Ja Chisholm with the silica oxides of Shustack as Shustack teaches the two nanoparticles to be equivalents for the same intended use and size with the same surface modification.

Claims 21, 24-26, 35-36, 40 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ja Chisholm, as applied above, further in view of Stevenson et al, U.S. Patent No. 6,846,089 ("Stevenson").

Ja Chisholm teaches the device substantially as claimed however fails to exemplify the brightness enhancing film being prismatic in nature.

Stevenson teaches a method of stacking surface structure optical films wherein the optical films are prismatically structured for increasing the brightness of the display (abstract).

Art Unit: 1756

Stevenson further teaches the backlight display assembly (104) for an LCD wherein the films contain rows of prism shaped ribs (4:66-5:10) to direct the light toward the axis of the system. These prisms are not limited to specific shaping (6:21-29).

It would have been obvious to shape the ribbing of Ja Chisholm prismatically for a brightness enhancing film as detailed by Stevenson because such prisms would direct the light in an intended manner such as toward the axis of the system.

Conclusion

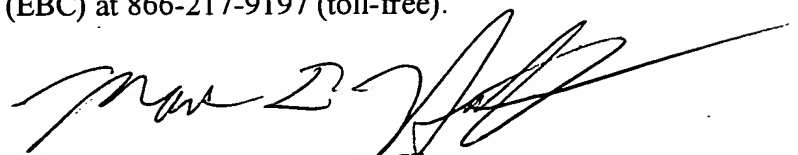
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer R. Sadula whose telephone number is 571.272.1391.

The examiner can normally be reached on Monday through Friday, 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571.272.1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRS
29 March 2005



MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700